

## STATEMENT OF BASIS

For Proposed Permit Limits (Permit Renewal)

PERMITTEE: ExxonMobil Refining and Supply Company

PERMIT NO.: MT0028321

RECEIVING WATER: Yellowstone River

### FACILITY INFORMATION:

Mailing Address: P.O. Box 1163  
Billings, MT 59103

Facility Location: 700 ExxonMobil Road  
Billings, MT 59101

Contact: Tracey I. Anderson, Environmental Coordinator - (406) 657-5255

### FEE INFORMATION

Number of Outfalls: 1 (For Fee Determination Only)

Type of Outfall: 001 Treated Wastewater

#### I. Permit Status

The ExxonMobil Refining and Supply Company (Exxon) has maintained an individual Montana Pollutant Discharge Elimination System (MPDES) for suction dredging since 1986. The previous permit was issued on July 1, 1997 and expired on June 30, 2002. Exxon submitted EPA Form 1 and DEQ Form 2C on January 25, 2002. On September 27, 2002 the Department determined the application was complete and administratively extended.

#### II. Facility Information

Exxon is a petroleum refining company. The facility processes, treats, and transforms crude oil and other raw materials into refined hydrocarbon products, by-products and intermediates. Crude oil throughput is 51,700 barrels per operating day.

This MPDES permit renewal is for dredging the Yellowstone River in front of the river water intake pump house. Each year the river intake channel in front of the pump house fills with river sediment, gravel and rocks during the high runoff season. Dredging the channel is required to maintain ExxonMobil's vested water rights for the safe and reliable operation of the refinery. Up to 10,000 cubic yards of river deposits are removed annually

with a portable hydraulic suction dredge. River material is pumped to two settling ponds operated in series and located above the high water elevation. Treated (for turbidity using simple settling) river water is piped to the non-contact cooling water discharge ditch and returned to the Yellowstone River. River deposits are collected in the first settling pond, crushed and then used as road base material on-site. This permit regulates the discharge of treated suction dredge water at Outfall 001 (see Figure 1).

For the refinery operation, Yellowstone River water is pumped through the intake at the river pump house and used as process water and non-contact cooling water. Process water is treated in the on-site wastewater treatment plant consisting of an API separator, induced air floatation unit, a biological oxidation lagoon and three stabilization/polishing ponds before it is discharged to the Yellowstone River. Treated non-contact cooling water is transported through a discharge ditch and discharged to the Yellowstone River. Process and cooling water discharges are regulated under MPDES permit MT0000477.

Table 1 shows the effluent data from the suction dredge operation during the period of record (POR) from June 2000 through August 2005.

Table 1. Effluent Data from June 2000 through August 2005

<b>Parameter</b>	<b>Number of Samples</b>	<b>Average</b>	<b>Minimum</b>	<b>Maximum</b>
Flow, gpm	6	2352	1294	5417
Net Turbidity, NTU	6	18	6	33
Oil and grease, mg/l	6	0	0	0

For the POR the facility has not exceeded effluent limits. Historical information in the facility file shows the facility has not exceeded effluent limits and has not been issued any violation letters for the last twenty years (since 1986).

The water use classification for the Yellowstone River mainstem downstream from the City of Billings water intake is classified as B-3 [Administrative Rules of Montana (ARM) 17.30.611(1)(c)(i)].

### III. Effluent Limits/Monitoring Information

There are no federal Effluent Limitations Guidelines for suction dredges of this type.

Based on current United States Geological Survey data at station 0614500 the 7Q10 low flow of the Yellowstone River at Billings for the last ten years is 1,110 cubic feet per second (cfs). The maximum discharge from the settling basins at the facility is 5,417 gallons per minute or 12 cfs. Using this data, Equation 1 is used to calculate the net turbidity limit.

$$X = \frac{Q_r + Q_d}{Q_d}(T) \quad (\text{Equation 1})$$

X = Turbidity limit expressed in NTUs (935 NTU)  
 Q<sub>r</sub> = Receiving water low flow rate (1,110 cfs)  
 Q<sub>d</sub> = Discharge flow rate (12 cfs)  
 T = Maximum allowed turbidity increase (10 NTU)

The calculated turbidity limit is 935 NTU. However, the maximum calculated net turbidity limit shall not exceed 100 NTU in order to reduce the chances of nuisance or aesthetic turbidity problems in the discharge plume or receiving water [ARM 17.30.637(1)(c)]. This limit is equivalent to the turbidity limit established in the Construction Dewatering General Permit.

The water quality standard for oil and grease is 10 mg/L or no visible oil sheen [ARM 17.30.637(1)(b)]

A. Effluent limits for Outfall 001 are listed in Table 2.

Table 2. Effluent Limits

Parameter	Limit
Net Turbidity, NTU <sup>1</sup>	100
Oil and grease, mg/l	10
<sup>1</sup> Calculated by subtracting the in-stream sample result from the effluent sample result.	

The pH shall be greater than 6.5 s.u. and less than 9.0 s.u [ARM 17.30. 625(2)(c)].

There shall be no discharge of floating solids or visible foam in other than trace amounts [ARM 17.30.637(1)(b)].

B. Effluent monitoring requirements for Outfall 001 are listed in Table 3.

The effluent must be sampled at the discharge pipe before wastewater enters the non-contact cooling water discharge ditch. Effluent limits in Table 2 apply at this point (see Figure 1 - Compliance Point).

Table 3. Monitoring Requirements

Parameter	Unit	Sample Location	Sample Frequency	Sample Type <sup>1</sup>
Flow <sup>2</sup>	gpm	Effluent	Daily	Instantaneous
Turbidity <sup>3</sup>	NTU	Effluent	Daily	Grab
Turbidity	NTU	Upstream	Daily	Grab
Net turbidity <sup>4</sup>	NTU	Effluent Net	Daily	Calculated
Oil and grease <sup>5</sup>	mg/l	Effluent	Daily	Visual
Footnotes: 1. See Definition section at end of permit for explanation of terms. 2. Measured at the end of the discharge pipe by using pump curves or tables or another Department approved method. 3. Measured at the end of the discharge pipe. 4. Calculated by subtracting the upstream sample value from the effluent sample value. 5. If a visual sheen is noted then a grab sample of the effluent must be analyzed for oil and grease using EPA Method 1664.				

Upstream samples of the receiving stream must be taken 600 feet upstream from the river pump house. The sample location must be clearly marked. The sample must be collected within 30 minutes of collecting the effluent sample and analyzed with 48 hours of collecting the sample.

IV. Other Information

On September 21, 2000, a U.S. District Judge issued an order stating that until all necessary total maximum daily loads (TMDLs) under Section 303(d) of the Clean Water Act are established for a particular water quality limited segment (WQLS), the State is not to issue any new permits or increases under the MPDES program. The order was issued in the lawsuit Friends of the Wild Swan v. U.S. EPA, et al. (CV 97-35-M-DWM), District of Montana and Missoula Division.

The DEQ finds that renewal of this permit does not conflict with the order because there are no new or increased sources associated with this discharge. In addition, since there are no new or increased sources associated with this discharge, nondegradation requirements are not applicable.

